

ABSTRACT

Sub
a17 } An optical network terminator for terminating an optical network. Use of the present invention eliminates the prior art problems of noise accumulation from ASE, thermal noise, etc., while providing bi-directional communications in the optical network. The optical network may have any topology such as ring, star, mesh, point-to-point, etc. In the case of an optical ring, the ring is broken and an optical terminator is placed in line therewith. The optical network terminator includes a filter such as an optical demultiplexer/multiplexer or Fiber Bragg Grating (FBG) based filter. The filter functions to each individual wavelength of light and generate a multi-wavelength optical output with the noise accumulation removed. Each channel is adapted to only pass a band-limited signal around the center frequency corresponding to the wavelengths supported by the particular ring network. Equalization of the channels is enabled using variable optical attenuators and monitors in line with each channel. Channels currently not in use can be disconnected from the ring remotely.